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ABSTRACT

This manual is a guide to the Work Temperament Inventory (WTI), a self-report measure of 12 work temperaments that were originally identified and defined by the U.S. Department of Labor. The WTI consists of 134 items requiring a simple "like" or "dislike" response and a reading level of seventh grade. It can be completed in 15 to 20 minutes using a consumable booklet or direct input to the WTI Computer Report. The validity of the WTI is supported by the original developmental analysis, the factor analytic structure of the 12 temperaments, convergent and divergent relationships with measured occupational interests, and the differential temperamental requirements of 91 worker trait groups. The WTI Computer Report generates a normative profile on the 12 work temperament scales and then lists up to 12 worker trait groups for which the respondent is temperamentally suited. Extensive appendices include instructions for using the WTI Report, a description of the WTI computer program, worker trait group codes, sample descriptions of worker trait groups, critical temperaments for worker trait groups, WTI scale descriptions with examples, the WTI scoring key, WTI norm translations, demographic characteristics of the normative sample, and interest inventory scales. The WTI itself is attached. (Contains 11 references.) (DB)

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Manual for the Work Temperament INVENTORY

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MANUAL FOR THE
WORK TEMPERAMENT INVENTORY

Brian Bolton

Jeffrey Brookings

WTI Computer Report

Jeanne Neath and Brian Bolton

March, 1993

Arkansas Research & Training Center
in Vocational Rehabilitation

University of Arkansas, Fayetteville

Arkansas Rehabilitation Services

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OVERVIEW

- The Work Temperament Inventory (WTI) is a self-report measure of 12 work temperaments that were originally identified and defined by the U. S. Department of Labor.
- The WTI consists of 134 items requiring a simple "like" or "dislike" response and a reading level of seventh grade.
- The WTI can be completed in 15-20 minutes by the respondent using a consumable booklet or directly input to the WTI Computer Report.
- The validity of the WTI is supported by the original developmental analysis, the factor analytic structure of the 12 temperaments, convergent and divergent relationships with measured occupational interests, and the differential temperamental requirements of 91 worker trait groups.
- The WTI Computer Report generates a normative profile on the 12 work temperament scales and then lists up to 12 worker trait groups for which the respondent is temperamentally suited.
- The WTI Computer Report is available on a floppy disk written in BASIC for MS DOS machines that will run on most IBM compatible machines.

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MANUAL FOR THE WORK TEMPERAMENT INVENTORY

Introduction

The largest body of systematic information about jobs in the U.S. economy has been assembled during the past 40 years by the U.S. Department of Labor (DOL) and has been made available to vocational counselors through various DOL publications, the best known being the *Dictionary of Occupational Titles*, the *Occupational Outlook Handbook*, and the *Guide for Occupational Exploration*. Standardized job data for the 12,000+ jobs in the U. S. labor market developed by the DOL include requisite abilities, essential formal training, strength requirements, environmental conditions, interests, and temperamental factors.

While instruments have been constructed to measure some job features (e.g., abilities and interests), most DOL job characteristics are simply judged or rated by the vocational counselor. Because of the established relevance of temperamental factors in the vocational success of persons with disabilities, it was reasoned that improved rehabilitation planning might result from the use of a standardized inventory designed to profile the client's work temperaments.

Work Temperaments

Work Temperaments may be defined as the adaptability requirements made on the worker by specific types of jobs (U. S. DOL, 1982). Analogously, work temperaments are the "personal traits" required of the worker by the job situation (U. S. DOL, 1972). The degree to which the worker can adapt to work situations is often a determining factor for success on the job. Different job situations call for different temperamental traits on the part of the worker. A worker's dissatisfaction or failure to perform adequately can sometimes be attributed to an inability to adapt to a work situation, rather than to an inability to learn and carry out job duties.

Researchers at the DOL isolated 12 temperamental requirements of jobs in the 1950s, which were slightly modified and reorganized in the 1960s and 1970s. The goal of the current research was the development of a strategy (the Work Temperament Inventory) for measuring the temperamental requirements of all job families in the U.S. labor force. Despite the clear applicability of the concept to the DOL's objective of matching individuals to jobs on the basis of temperamental suitability, the DOL never constructed an instrument to assess individual differences in work temperaments.

Work Temperament Inventory

In the late 1980s, Bolton and Brookings developed a self-report inventory to assess the 12 work temperaments originally formulated in the early 1950s by a committee of

investigators associated with the U.S. Employment Service, a section of the DOL. The history of this developmental work is summarized below.

The Work Temperament Inventory (WTI; Bolton & Brookings, 1990) consists of 134 job tasks that workers perform. The respondent indicates whether he/she would like or dislike each activity. Completing the WTI takes about 20 minutes and requires a reading level of seventh grade or above. The WTI is scored on 12 temperamental factors, resulting in a profile of percentile equivalents that locate the respondent in comparison to the combined normative group, consisting of liberal arts students, technical college students, rehabilitation clients, and employed persons.

The 12 WTI scales are described in Table 1. Extended descriptions with item examples are given in Appendix 6. The 12 WTI scales are scored by summing the "Like" responses to the items composing each of the scales. The scoring key is included in Appendix 7. The 12 raw scores are converted to percentile equivalents using the norm table in Appendix 8.

Use of the WTI

The use of the WTI in vocational counseling and job placement is greatly facilitated by the availability of a computer-generated report (see Appendix 1 for instructions). The WTI Report includes a score profile based on the combined normative group and lists up to 12 occupational groups (called Worker Trait Groups) for which the respondent is best suited **with respect to temperamental requirements**. A brief description of the computer program which generates the WTI Report is given in Appendix 2. The counselee's job suitability in terms of aptitudes, interests, personality, work habits, and vocational maturity must be determined using other assessment procedures in the Diagnostic Employability Battery (see the inside back cover of this manual for information).

Origins of Work Temperaments

The identification and definition of the 12 work temperaments was the result of investigations carried out in the 1950s. The research program was conducted under the auspices of the occupational research division of the U.S. Employment Service for the purpose of developing a new occupational classification structure. The new

Table 1

WTI Scale Descriptions

D - DIRECTING, controlling, and planning activities of others, including formulating policies, negotiating for agreements, and supervising subordinate workers.

R - Performing REPETITIVE or short-cycle work entailing the completion of routine tasks according to set procedures with little opportunity for independent judgment.

I - INFLUENCING people to modify their opinions, attitudes, and judgments, or to participate in particular activities, or to purchase a commodity or service.

V - Performing a VARIETY of duties involving different aptitudes, techniques, procedures, and physical demands without loss of efficiency or composure.

E - EXPRESSING personal feelings, using creativity or imagination to reflect original ideas in writing, painting, composing, inventing, or interpreting the work of others.

J - Making JUDGMENTS, evaluations, and generalizations based on sensory criteria or knowledge gained through personal experience in a wide variety of activities.

A - Working ALONE or apart in physical isolation from others in an environment that precludes face-to-face interpersonal relationships for extended periods of time.

S - Performing effectively under STRESS in jobs that involve emergency, unusual, or dangerous situations that require speed, risk, and sustained attention.

T - Attaining precise set limits, TOLERANCES, and standards using precision measuring instruments, preparing detailed records, and complying with precise specifications.

U - Working UNDER specific instructions that require continuously following instructions in oral, written, or diagrammatic form, precluding independent judgment in solving problems.

P - Dealing with PEOPLE in job situations that require cooperative and agreeable interpersonal relationships, beyond merely giving and receiving instructions.

M - Making judgments and decisions based on MEASURABLE or verifiable information, facts, or data, such as knowledge of the characteristics of materials or the properties of matter and energy.

classification scheme was designed to encompass the common worker trait requirements of jobs, such as aptitudes, interests, and temperaments.

The development of the 12 temperamental requirements of jobs was reported by Boling and Fine (1959). The first effort at identifying work temperaments using the personality trait descriptions provided by Allport (1943) and Cattell (1946) was not successful. The second attempt defined work temperaments "not as traits in people, but as situations calling for those traits, illustrated with specific examples from job definition (p. 103)." After a comprehensive rating study, work temperaments were redefined as types of situations calling for traits, and were worded as in job descriptions. A matching study finalized the 12 temperamental traits.

The product of this extensive effort was a method of rating the temperamental requirements of jobs for the purpose of providing temperamental information in a functional occupational classification structure. Work temperaments are thus defined in terms of the types of situations in jobs to which workers must adjust to be successful employees.

Two of the 12 temperamental factors, A and U, were subsequently deleted in the 1972 edition of the *Handbook for Analyzing Jobs* (U. S. DOL, 1972), but were later restored as a result of a nationwide survey of job analysts (U. S. DOL, 1982). Based on this same survey, temperaments J and M were combined into a single decision-making temperament. Because we did not find the argument for collapsing J and M into one factor convincing, believing that this was an empirical matter, we retained all 12 temperaments in the WTI.

Development of the WTI

As indicated above, the decision was made by the WTI authors to construct an instrument to measure the 12 temperaments identified in the basic research carried out in the 1950s by investigators with the U.S. Employment Service. If users of the WTI elect to eliminate or collapse scales, this can be done easily. On the other hand, it would be virtually impossible to measure any of the original temperaments if we had omitted them in the development of the WTI.

The first conceptual issue that had to be addressed concerned the use of the self-report approach to measure respondents' "temperamental suitability" for or "adaptability" to specific work situations. Clearly, respondents cannot **directly** judge their suitability for or adaptability to various job tasks or settings. Thus, we decided to make the **assumption** that preferences for job activities constitute evidence of temperamental suitability for the associated job families (i. e., Worker Trait Groups). This assumption justified the use of standard interest inventory item and response formats.

By making this assumption, we also raised a fundamental question: Are work temperaments different from occupational interests, as the latter are measured by standard

inventories? This question is addressed in the section on research. A more basic question is whether work temperaments can even be measured by self-report; this question is also addressed below.

Most of the 134 items composing the WTI were prepared by editing detailed descriptions of work activities that illustrate the 12 temperaments. The illustrative examples were written by U. S. Employment Service occupational analysts and published in the *Handbook for Analyzing Jobs* (U. S. DOL, 1972) and *A Guide to Job Analysis* (U. S. DOL, 1982). These descriptions of the temperaments, which typically ranged from 25 words to 50 words in length, were edited down to statements between 8 and 12 words long. The item pool that resulted from this first effort contained 170 statements, with 12 or more potential items for each temperamental scale, except A and U, which only had five items each. Hence, it was necessary for the authors to write additional items for these two factors.

The preliminary item pool of 170 statements was subjected to additional editing, primarily involving deletion of statements within each of the temperamental factors that were: (1) inconsistent with the general theme of the temperament, or (2) substantially redundant with other statements. Examination of the statements across the temperamental categories resulted in the elimination of several statements that were essentially duplicative. The final result of this editing process was a set of 134 items, with between nine and 13 items composing each temperament scale.

Two questions about the WTI item development procedures could be legitimately raised. First, did reducing the detailed descriptions of the work temperaments written by occupational analysts result in a loss of critical information about the trait requirement? In other words, was the subtle quality of the temperaments diluted when details about the trait activities were eliminated? While it is not possible to give a definitive answer to the question, it is obvious that (1) some degree of authenticity is lost when information is deleted, and (2) the items composing a self-report inventory must be fairly brief to be feasible. Our judgment is that the WTI represents a reasonable compromise between authenticity and practicality.

The second question concerns the difficulty faced in separating the personal traits required to perform work activities or job tasks from the occupational settings in which the activities or tasks occur. In operational terms, the question posed is: Can temperamental requirements of jobs be specified in isolation from an occupational context? In strict measurement terms, the question is: Are work temperaments different from occupational interests? We decided that this was an empirical question, i.e., one amenable to resolution using data. In the section on psychometric characteristics of the WTI, data are presented that indicate that work temperaments involve constructs that are distinct from vocational interests.

The 134 items composing the WTI were arranged in random order, subject to the restriction that items from each of the 12 scales were spaced about equally throughout the

instrument. The directions to respondents ask that they indicate whether they would **Like** or **Dislike** each of the 134 job tasks that workers perform. Respondents are advised not to be concerned with their qualifications to perform the tasks, but only with whether or not they would like the activities.

Worker Trait Groups

As indicated above, the computer-generated WTI Report lists up to 12 occupational groups, called Worker Trait Groups, for which the respondent is best suited with respect to temperamental requirements. The 12 or fewer Worker Trait Groups (WTGs) listed by the WTI Report are selected from 91 WTGs that subsume all 12,000+ jobs in the U. S. labor force.

The 91 WTGs were assembled by placing occupations with similar worker functions (Data-People-Things) requirements and similar work activities into the same categories. The 91 clusters of similar occupations (WTGs) are further organized into 22 areas of work. The 91 WTGs, organized under the 22 work areas, are listed in Appendix 3.

It is from this set that the 12 or fewer WTGs for which the respondent is best suited are selected. Each of the WTGs identified for the respondent includes a brief description of the work performed and a list of clues for relating the applicant and the job requirements. All 91 descriptions were taken from Kerns and Neeley (1987). The description for photography (003) is given in Appendix 4.

Psychometric Characteristics of the WTI

This section includes descriptions of the WTI normative sample, the correlational structure of the WTI (including reliability estimates), and the evidence supporting the validity of the WTI.

Normative Sample. The normative sample, which is also the research sample for all analyses reported in this section, consists of 329 respondents representing four groups: liberal arts students (n=107), technical college students (n=79), non-faculty university employees (n=75), and rehabilitation center clients (n=68).

The normative sample subgroups are described as follows:

- The 107 four-year college students are almost all between 17 and 25 years old and two-thirds are females.

- The 79 two-year college students are about equally divided between younger (17-25 years) and older students and two-thirds are females.

- The 75 university employees span the age range from 26 to 68 years and are predominantly females working in secretarial and administrative support positions.

- The 68 rehabilitation center clients span the age range from 27 to 45 years and are predominantly male high school graduates with medical disabilities.

The total normative sample, then is about equally divided between younger (17-25 years) and older participants, mostly high school graduates or lower division college students, two thirds are females, including some employed females and some males with medical disabilities. Details about the demographic characteristics are presented in Appendix 7.

Descriptive statistics for the WTI scales for the normative sample and the four subgroups are presented in Table 2. These raw score means and standard deviations, and the demographic characteristics described above, indicate that there are differences among the four subgroups, and therefore, that the total normative sample is a broadly representative composite group.

Correlational Structure. Statistics pertaining to the correlational structure and internal consistency of the 12 WTI scales are presented in Table 3. The average inter-item correlation within each scale is an index of scale homogeneity, or the extent to which the scale items share a common core. The internal consistency coefficients (alphas) are lower-bound estimates of the reliabilities of the scales. The retest coefficients for several of the scales (V, J, and U, in particular) would probably be somewhat higher.

Table 2

WTI Descriptive Statistics for the Total Sample and Four Subsamples

Scale	Four Year College		Two Year College		University Employees		Rehab Clients		Total Sample	
	M	SD	M	SD	M	SD	M	SD	M	SD
D	4.6	2.4	4.4	2.4	4.0	2.8	4.2	2.9	4.4	2.6
R	0.9	1.5	1.8	1.9	1.9	2.5	3.2	3.1	1.8	2.4
I	4.8	3.3	5.2	3.2	4.8	3.4	4.4	3.7	4.8	3.4
V	3.7	2.0	4.0	2.2	4.5	2.2	4.8	2.4	4.2	2.2
E	8.5	3.5	6.2	4.1	7.1	3.8	5.7	4.0	7.1	4.0
J	4.9	2.0	4.1	2.3	4.6	2.3	3.8	2.8	4.4	2.4
A	2.4	2.0	2.6	2.3	2.4	2.1	3.8	2.6	2.7	2.3
S	3.7	2.5	3.8	2.2	2.6	2.6	3.9	2.8	3.5	2.6
T	1.7	1.7	2.0	2.2	2.9	2.5	4.2	3.2	2.6	2.5
U	1.1	1.3	2.1	1.6	2.0	1.9	2.7	2.1	1.9	1.8
P	5.3	2.8	5.8	3.2	6.2	3.2	5.3	3.6	5.6	3.2
M	2.9	2.3	3.8	2.5	3.2	2.6	4.7	3.1	3.6	2.7

Note: N's for the four subsamples and the total sample are 107, 79, 75, 68, and 329, respectively.

Table 3

Homogeneity and Internal Consistency Indices for the WTI Scales

	# Items	Mean	SD	Mean Inter-Item r	α
D	11	4.4	2.6	.17	.70
R	11	1.8	2.4	.28	.81
I	12	4.8	3.4	.29	.83
V	12	4.2	2.2	.09	.54
E	13	7.1	4.0	.34	.87
J	10	4.4	2.4	.17	.67
A	9	1.7	2.3	.24	.74
S	11	3.5	2.6	.18	.71
T	12	2.6	2.5	.21	.76
U	9	1.9	1.8	.20	.69
P	12	5.6	3.2	.23	.78
M	12	3.6	2.7	.18	.73

The WTI scale intercorrelations are given in Table 4. These data indicate that some scales overlap considerably (e.g., D and J, I and P, and T and U), whereas other scales are essentially independent of each other (e.g., R and E, I and A, and E and U). To better understand how work temperaments are organized, a factor analysis was carried out. Also, because work temperaments can be thought of as job-related personality traits, a secondary objective was to explore the alignment of the WTI constructs with the "Big Five" personality dimensions (McCrae & John, 1992).

A principal components analysis of the 12 x 12 correlation matrix produced the following eigenvalue distribution: 5.59, 1.87, 1.15, 0.79, 0.58. 0.42, 0.38, 0.29, 0.28, 0.24, 0.21, and 0.19. Based on the scree criterion, five components, accounting for 83.2% of the total variance, were retained and rotated to oblique (oblimin) and orthogonal (varimax) simple structure. The two rotations produced similar patterns of loadings (mean interfactor $\underline{r}$ = .27 for the oblique solution).

Inspection of the salient loadings for the orthogonal solution (Table 5) suggests the following WTI/"Big Five" correspondences: WTI Factor I - Agreeableness; Factor II - Conscientiousness; Factor III - Extraversion (-); Factor IV - Openness to Experience; and Factor V - Neuroticism (-). The results of the factor analytic study indicate that the "Big Five" dimensions of personality can be identified in the factor structure of the WTI. The findings thus support the generalizability of the five-factor model to assessment domains that are removed somewhat from the study of personality structure per se.

Validity Evidence

The Work Temperament Inventory was developed following the rational strategy of instrument development, as described in previous sections. This means that the content validity of the WTI derives from the original research conducted by DOL investigators in the 1950s (Boling & Fine, 1959). The strongest evidence supporting the value of the work temperaments is their ability to differentiate among the 91 Worker Trait Groups (WTGs). During the 1960s and 1970s all jobs in the U. S. labor force were rated for salient work temperament requirements by trained occupational analysts. These temperament ratings were aggregated for the 91 WTGs (see Kerns & Neeley, 1987) and constitute the criterion profiles that are used to identify the 12 or fewer most suitable WTGs in the *WTI Report*. The work temperament profiles (for 10 temperaments; A and U were omitted) are given in Appendix 5.

Table 4

WTI Scale Intercorrelations

	D	R	I	V	E	J	A	S	T	U	P	M
D	-											
R	.20	-										
I	.60	.15	-									
V	.55	.38	.48	-								
E	.48	.00	.36	.34	-							
J	.66	.15	.56	.51	.62	-						
A	.42	.25	.16	.38	.14	.28	-					
S	.58	.12	.31	.31	.19	.32	.47	-				
T	.44	.63	.28	.61	.19	.42	.51	.28	-			
U	.37	.67	.31	.62	.06	.31	.42	.24	.76	-		
P	.59	.23	.77	.58	.39	.60	.19	.30	.38	.39	-	
M	.57	.31	.43	.60	.24	.51	.59	.44	.65	.61	.42	-

Table 5

Varimax Loadings and Communalities for the WTI Scales

WTI Scale	Factor I	II	III	IV	V	h^2
D	.50	.14	.29	.43	.51	.79
R	.04	.95	.00	.00	.11	.91
I	.89	.06	.08	.17	.16	.85
V	.51	.41	.46	.25	-.01	.70
E	.17	-.01	.04	.93	.06	.90
J	.46	.11	.25	.69	.12	.78
A	-.05	.15	.80	.07	.36	.79
S	.17	.07	.25	.08	.90	.92
T	.16	.71	.51	.18	.06	.82
U	.27	.76	.43	-.02	.00	.85
P	.86	.19	.09	.24	.11	.84
M	.33	.26	.77	.15	.15	.81

In conjunction with the development of the WTI, two major research questions that are relevant to instrument validity were addressed:

1. Are the 12 work temperaments that were identified in the original research measurable by self-report? This question may be divided into two questions that correspond to two types of relevant evidence:
   (a) Are the 12 WTI scales composed of homogeneous and internally consistent sets of items?
   (b) Are the 12 scales differentiable? In other words, are the scale intercorrelations low enough to suggest that the scales are measuring different constructs?

2. Are work temperaments organized in terms of job tasks or work activities, as hypothesized? Or are work temperaments simply reflective of different occupational settings? Rephrased to reflect the research methodology, this question concerns whether respondents are influenced more by the specific job tasks described in the WTI work preference items or by the broad occupational areas designated or implied in the items. Occupational settings refer to the categories of jobs that are typically encompassed by interest inventories, e.g., artistic, mechanical, scientific, business, etc. Job task organization refers to the 12 classes of work activities developed by DOL investigators in the 1950s and labeled work temperaments.

To address these research questions, the following analyses were carried out:

1. Five judges independently allocated the 134 WTI items to the 12 occupational categories measured by the USES Interest Inventory (the 12 categories are described in Appendix 10).

2. The WTI protocols for the research sample were scored according to two schemes: (a) the 12 work temperament scales, and (b) the 12 USES Interest Inventory scale categories.

3. As an indication of "organization" or scale cohesion, homogeneity indices and internal consistency coefficients were calculated for the 12 WTI temperament scales and for the 12 occupational interest "scales" scored from the WTI.

4. The 12 WTI temperament scales and the 12 WTI interest scales were correlated with the 12 interest scales of the USES Interest Inventory, which was also administered to the research sample.

5. Multiple regression analyses of the entire set of USES Interest Inventory scales against each of the WTI work temperament scales were carried out to establish the uniqueness of the WTI scales.

The two instruments were administered in counterbalanced order to the research sample. The USES Interest Inventory consists of 162 items that measure 12 occupational interest areas that serve as the primary organizing basis for the DOL's occupational assessment/job counseling and placement system. As indicated above, the WTI was also scored for the 12 USES-II occupational areas, as well as on the 12 work temperaments. The results of the homogeneity and correlational analyses are presented in Tables 6, 7, 8 and 9 and summarized as follows:

1. The homogeneity of the WTI-Temperament scales is only slightly lower than that of the WTI-Occupational Area scales, as indicated by average inter-item correlations (within scales) of .19 and .22, respectively (see Table 6).

2. Although internal consistency coefficients are, in part, a function of the number of items comprising the scales, the alphas for the WTI-Temperament scales and the WTI-Occupational Area scales are similar to the homogeneity results, with average alphas of .70 and .71, respectively (see Table 6).

3. The number of convergences ($\underline{r}$ = .50) is the same (17 and 17) for the USES-II/WTI-Temperament correlations and for the USES-II/WTI-Occupational Area correlations (see Tables 7 & 8).

4. The convergences between the USES-II and WTI-Temperaments are consistent with the constructs embodied in the Temperament scales, as verified by examination of the item content (see Tables 7 & 8).

   For example, the correlation ($\underline{r}$ = .78) between **Artistic** and **Expressing Feelings** reflects the artistic content of the items composing the Expressing Feelings scale (i.e., acting, singing, designing, writing, creating, etc.).

   For example, the correlation ($\underline{r}$ = .67) between **Physical Performing** and **Performing Under Stress** reflects the physical performance content of the items composing the Performing Under Stress temperamental scale (i.e., fire fighting, training animals, driving race cars, flying aircraft, performing daredevil feats, etc.).

Table 6

Homogeneity and Internal Consistency Indices for WTI Temperament Scales and WTI Occupational Area Scales

		Inter-item correlation			
Scale	# Items	Mean	Max.	Min.	α
D	11	.17	.49	.00	.70
R	11	.28	.59	.04	.81
I	12	.29	.53	.10	.83
V	12	.09	.64	-.14	.54
E	13	.34	.64	.09	.87
J	10	.17	.52	-.06	.67
A	9	.24	.44	.03	.74
S	11	.18	.46	-.10	.71
T	12	.21	.45	.03	.76
U	9	.20	.51	-.01	.69
P	12	.23	.49	.01	.78
M	12	.18	.63	-.10	.73
Art16	.33	.64	.02	.88	
Sci11	.23	.63	.03	.76	
Pla6	.16	.28	-.08	.54	
Pro10	.20	.43	.01	.72	
Mec	15	.28	.64	.01	.84
Ind17	.25	.53	.00	.84	
Bus	15	.32	.68	-.05	.88
Sel5	.21	.45	.07	.58	
Acc	8	.16	.33	-.03	.61
Hum	8	.30	.54	.12	.81
Lea	14	.23	.49	-.05	.81
Phy	5	.21	.46	.05	.57

Table 7

Correlations Between WTI Temperament and Occupational Scales and the USES Interest Inventory

	USES-II											
WTI	Art	Sci	Pla	Pro	Mec	Ind	Bus	Sel	Acc	Hum	Lea	Phy
D	.45	.41	.38	.38	.32	.17	.19	.40	.28	.37	.54	.47
R	-.05	.04	.27	.20	.30	.59	.50	.17	.47	.12	.04	.02
I	.32	.40	.22	.32	.06	.09	.25	.51	.35	.49	.61	.16
V	.27	.35	.34	.31	.38	.34	.52	.36	.32	.41	.50	.17
E	.78	.19	.20	.03	.14	.07	.05	.22	.13	.35	.35	.33
J	.56	.30	.32	.18	.22	.12	.20	.33	.23	.39	.54	.32
A	.22	.29	.62	.41	.54	.34	.08	.11	.23	.12	.16	.38
S	.21	.43	.35	.55	.34	.10	-.07	.23	.17	.30	.20	.67
T	.19	.15	.37	.30	.54	.55	.53	.32	.40	.10	.31	.15
U	.05	.31	.33	.28	.43	.54	.57	.24	.42	.20	.26	.02
P	.35	.33	.26	.32	.08	.15	.40	.42	.42	.54	.62	.17
M	.24	.54	.38	.36	.49	.24	.25	.27	.22	.25	.40	.26
Art	.76	.18	.23	.02	.18	.13	.14	.23	.17	.36	.36	.28
Sci	.37	.63	.44	.27	.41	.16	.02	.12	.15	.32	.25	.30
Pla	.26	.28	.66	.30	.26	.32	.08	.10	.31	.26	.11	.44
Pro	.22	.35	.44	.62	.41	.23	.13	.28	.28	.26	.37	.53
Mec	.14	.28	.45	.39	.71	.41	.17	.20	.22	.10	.18	.33
Ind	.00	.07	.35	.26	.48	.62	.44	.20	.43	.05	.07	.07
Bus	.02	.13	.08	.18	.17	.32	.77	.36	.34	.20	.51	-.11
Sel	.27	.38	.16	.25	.04	.09	.21	.52	.33	.36	.53	.11
Acc	.29	.44	.30	.34	.26	.31	.47	.44	.47	.49	.51	.16
Hum	.36	.43	.14	.14	.05	.01	.14	.28	.20	.68	.52	.17
Lea	.37	.37	.28	.43	.13	.07	.20	.47	.30	.42	.63	.35
Phy	.48	.23	.26	.27	.10	.01	.13	.22	.15	.20	.23	.64

Table 8

Correlations that Exceed .50 Between the WTI Temperament and Occupational Scales and the USES-II

USES-II	WTI-Temperament	r
Art	E	.78
Art	J	.56
Sci	M	.54
Pla	A	.62
Pro	S	.55
Mec	T	.54
Ind	R	.59
Bus	R	.50
Bus	U	.57
Bus	V	.52
Bus	T	.53
Hum	P	.54
Lea	D	.54
Lea	I	.61
Lea	P	.62
Lea	J	.54
Phy	S	.67

USES-II	WTI-Occupational	r
Art	Art	.76
Sci	Sci	.63
Pla	Pla	.66
Pro	Pro	.62
Mec	Mec	.71
Ind	Ind	.62
Bus	Bus	.77
Sel	Sel	.52
Hum	Hum	.68
Lea	Bus	.51
Lea	Sel	.53
Lea	Acc	.51
Lea	Lea	.63
Lea	Hum	.52
Phy	Pro	.53
Phy	Phy	.64

Table 9

Statistically Significant ($p < .05$) Beta Weights and Adjusted R^2s for Stepwise Multiple Regressions of the WTI Scales on the USES-II Scales

		USES-II Scale											
WTI	R^2	Art	Sci	Pla	Pro	Mec	Ind	Bus	Sel	Acc	Hum	Lea	Phy
D	47	16			14						12	26	16
R	44						33	34		09		-15	
I	52								24		27	34	-12
V	47					24		32			19	19	
E	65	76									26		
J	43	33									15	33	
A	47			41	18	16					-13		13
S	60	-10	16		30								58
T	54					36	22	36			-13		
U	58	-16	26			23	25	39					
P	59	12			11			11		20	34	36	
M	51		44			35						21	

Note: Decimals are omitted from the adjusted R^2s and regression coefficients.

5. The convergences between the USES-II and WTI-Occupational Area scales are consistent with the names and content of the pairs of scales. In fact, only two correlations between paired scales from the two instruments were exceeded by off-diagonal correlations. **Selling** (r = .52) was exceeded by **Selling** with **L-I** (r = .53) and **Accommodating** (r = .47) was exceeded by **Accommodating** with **L-I** (r = .51) (see Tables 7 & 8).

6. Although the extent of convergence (r > .50) is the same for the USES-II and the WTI-Temperament and WTI-Occupational Area scales, the number of divergent (or independent) correlations (r < .29) is much larger for the USES-II/WTI-Occupational Area scales (69 versus 85) (see Table 7).

7. The WTI-Occupational Area scales are more independent of each other (less highly correlated as a set) than the WTI-Temperament scales (32 versus 20 correlations less than or equal to .29) (see Table 7).

8. Stepwise multiple regression analyses (forward accretion) of the WTI scales on the USES scales showed that the number of statistically significant (p < .05) predictors ranged from three to six and that the variance accounted for in the WTI scales by the USES scales (R^2s adjusted for shrinkage) ranged from 43% to 65%. Across the 12 WTI scales, the average R^2 from analyses in which all 12 USES-II scales were forced into the regression equations was .55. This represents the total variance accounted for in the WTI scales by the USES-II scales (i.e., the redundancy) (see Table 9).

Conclusions: The following conclusions are supported by the data:

1. The results of the homogeneity analyses suggest that the temperamental constructs are just as cohesive as occupational area scales scored from the same set of work preference items. It should be emphasized, however, that the WTI items were written to focus on job task requirements, and not general occupational areas. In fact, what the data imply is that job task requirements cannot be separated from the general occupational context in which the job tasks are carried out.

2. The evidence indicates that even when inventory items are written to emphasize specific job tasks, respondents react as much to the general occupational areas depicted as to the job task features of the stimuli. However, the data suggest that while the work temperament scales do not align as well with traditional occupational area (interest) scales, the temperaments do correlate with occupational area scales in meaningful and expected ways.

3. The results indicate that the WTI and USES-II scales are significantly related, and that the patterns of inter-inventory relationships are consistent with predictions (e.g., the largest unique contributor to WTI Performing REPETITIVE Work was USES-II Industrial). However, even though the USES-II scales accounted for a

substantial portion of the variance in the WTI scales, a considerable portion of the variance nevertheless stands outside of the interest domain, and may thus make a unique contribution to the assessment of vocational potential.

4. The results do not demonstrate that scales organized around job tasks or work temperaments are any less useful than scales organized in terms of broad occupational areas. This is because all analyses for this research entailed internal (or inter-and intra-instrument) criteria. A different picture might emerge in analyses of external criteria, such as job performance, work satisfaction, tenure, accidents, absenteeism, etc.

REFERENCES

Allport, G. W. (1983). Personality: A psychological interpretation (rev. ed.). New York: Holt.

Boling, J., & Fine, S. A. (1959). Cues used by raters in the rating of temperament requirements of jobs. Journal of Applied Psychology, 45, 102-108.

Bolton, B. (1985). The United States Employment Service Interest Inventory. In D. J. Keyser & R. C. Sweetland (Eds.), Test critiques: Vol. 3 (pp. 673-681). Kansas City, Mo: Test Corporation of America.

Bolton, B., & Brookings, J. B. (1990). Work Temperament Inventory. Fayetteville, AR: Arkansas Research & Training Center in Vocational Rehabilitation.

Cattell R. B. (1946). Description and measurement of personality. New York: World.

Kerns, A., & Neeley, R. (Eds.) (1987). A dictionary of worker traits (Vol. 1). Philadelphia, PA: Vocational Rehabilitation Institute.

McCrae, R. R., & John, O. P. (1992). An introduction to the five-factor model and its applications. Journal of Personality, 60, 175-215.

U. S. Department of Labor (1972). Handbook for analyzing jobs. Washington, DC: U. S. Government Printing Office.

U.S. Department of Labor (1981). USES Interest Inventory. Washington, DC: U. S. Government Printing Office.

U. S. Department of Labor (1982). A guide to job analysis: A "how-to" publication for occupational analysts. Washington, DC: U. S. Government Printing Office.

U. S. Department of Labor (1988). The classification of jobs (3rd ed.). Washington, DC: U. S. Government Printing Office.

APPENDIX 1

INSTRUCTIONS FOR USING THE WTI COMPUTER REPORT
Diskette System

1. The following steps need to be completed before using the WTI diskette for the first time:

   a. Place the DOS diskette for your machine in drive A and follow the standard procedures described in your operations manual to reach the A> prompt.
   b. Place the WTI diskette in drive B.
   c. Enter the folllowing commands: **COPY COMMAND.COM B:**
      COPY PRINT.COM B:

2. To run the WTI Computer Report:

   a. Place the WTI diskette in drive A.
   b. Follow the standard procedures described in your operations manual to reach the A> prompt.
   c. Place either a blank formatted diskette or one with available space in drive B. This diskette will hold the completed WTI reports.
   d. Type **WTI** and press the **ENTER** key to reach the initial input screen. Follow the instructions on the screen.
   e. After entering the WTI item scores you will be asked to indicate which drive the WTI diskette is located in. If you have followed these instructions exactly as stated enter **A**. If the WTI diskette is in a different drive or in a subdirectory then give the name of the drive or the drive and subdirectory.
   f. On the final screen, enter the standard DOS name of the file to write the report to. The report will be written to the disk in drive B, unless a valid drive specification and/or path name are specified along with the file name (e.g. a:\johndoe).

3. To print the WTI Report:

   a. Leave the WTI diskette in drive A and the disk with the WTI report in drive B.
   b. Type the following command: **PRINT B:\filename** where filename is the name of the file you wish to print.
   c. If a message appears on the screen asking for the name of list device, press **ENTER**.
   d. Printing of the WTI Report will begin in a few seconds.

INSTRUCTIONS FOR USING THE WTI COMPUTER REPORT
Hard Disk System

1. To install the WTI Computer Report on your hard disk:

   a. Place the WTI diskette in drive A.
   b. Create a directory for the WTI program with the following command: **MD C:\WTI**
   c. Copy the files from the WTI diskette with the following command: **COPY A:*.* C:\WTI*.***

2. To activate the WTI:

   a. Follow the standard procedures described in your operating manual to reach the C> prompt. Make the C:\WTI your currect directory by typing the following command: **CD \WTI**
   b. Type **WTI** and press the **ENTER** key to reach the inital input screen and then follow the instructions on the screen.
   c. After entering the WTI item scores you will be asked to indicate which drive the WTI diskette is located in. If you have followed these instructions exactly as stated enter **C:\WTI**. If the WTI diskette is in a different drive or subdirectory then give the name of the drive or the drive and subdirectory.
   d. On the final screen, enter the standard DOS name of the file to write the report to. The report will be written to drive B, unless a valid drive specification and/or path name are specified along with the file name (e.g. C:\WTI\johndoe).

3. To print the WTI Report:

   a. From the DOS prompt, type the command: **PRINT filename**
   Be sure to include the appropriate drive and path specification as part of the file name.
   b. If a message appears on your screen asking for the name of list device, press the **ENTER** key.
   c. Printing of the WTI report will begin in a few seconds.

APPENDIX 2

A BRIEF DESCRIPTION OF THE WTI COMPUTER PROGRAM

The WTI Computer Report performs the calculations described below.

Once the WTI item scores are entered into the computer, the twelve raw scores for the Work Temperament Inventory are calculated by summing the items on each scale marked "Like." (A value of "1" is assigned to each item marked "Like.") The twelve raw scores are then converted into percentile scores based on norms previously established for the Work Temperament Inventory. Section one of the WTI Computer Report (on page one) lists both raw and percentile scores as well as providing a graphical representation of the twelve percentile scores.

The second section of the WTI Computer Report (pages two and three) lists the twelve percentile scores in rank order from highest to lowest. A short description of the twelve scales is provided along with the percentile scores.

The third section of the WTI Computer Report lists up to twelve worker trait groups for which the worker is temperamentally suited. These twelve (or fewer) worker trait groups are selected by matching the worker's temperament (based on the highest two to six WTI percentile scores) with worker trait groups which require the identical temperaments. (See Appendix 5 for a listing of the temperaments considered critical for the different worker trait groups. Note that different worker trait groups have different numbers of critical temperaments.)

In order to have a match the worker must have all the temperaments critical to a given work group. Depending on the quality of the match, work groups are categorized as excellent, very good, good, or fair matches for the worker. Excellent matches are perfect matches: the worker's five, four or three strongest temperaments exactly correspond to worker trait groups with the same five, four, or three critical temperaments.

Very good, good, and fair matches are less perfect matches. In these cases the worker must still have all the critical temperaments required for the worker trait group. However, in these less than perfect matches more of the worker's temperaments must be considered in order to make the match. For example, the worker's five highest WTI percentile scores may have to be considered before a match is made with a worker trait group having two critical temperaments. In this example a mismatch exists when the worker's two, three, or four highest temperaments are considered. The fifth worker temperament must be added to the equation before the match is made.

Matches are categorized as excellent when:

- the worker's five strongest temperaments provide a match with a worker trait group with five critical temperaments
- the worker's four strongest temperaments provide a match with a worker trait group with four critical temperaments
- the worker's three strongest temperaments provide a match with a worker trait group with three critical temperaments

Matches are categorized as very good when:

- the worker's five strongest temperaments provide a match with a worker trait group with four critical temperaments
- the worker's four strongest temperaments provide a match with a worker trait group with three critical temperaments
- the worker's two strongest temperaments exactly match a worker trait group that has two critical temperaments (Note: This is not considered an excellent match because of the small number of critical temperaments associated with the worker trait groups.)

Matches are categorized as good when:

- the worker's five strongest temperaments provide a match with a worker trait group with three critical temperaments
- the worker's three strongest temperaments provide a match with a worker trait group with two critical temperaments
- the worker's four strongest temperaments provide a match with a worker trait group with two critical temperaments

Matches are categorized as fair when:

- the worker's five strongest temperaments provide a match with a worker trait group with two critical temperaments
- the worker's six strongest temperaments provide a match with a worker trait group with five critical temperaments
- the worker's six strongest temperaments provide a match with a worker trait group with four critical temperaments
- the worker's six strongest temperaments provide a match with a worker trait group with three critical temperaments
- the worker's six strongest temperaments provide a match with a worker trait group with two critical temperaments

In selecting the twelve (or fewer) worker trait groups the computer algorithm selects the best matches first. The above listing is ordered from best through worst match. The selection of worker trait groups stops as soon as twelve matches are obtained. There is no guarantee that a full twelve matches will occur. The computer program does not search beyond the bottom of the fair category.

The final section (the last page) of the WTI Computer Report is an item listing of the 134 WTI item scores. This section is omitted if scale scores rather than item scores were originally entered.

APPENDIX 3

WORKER TRAIT GROUP CODES WITHIN AREAS OF WORK[1]

Code	Worker Trait Group Title
	ART
001	Instructive Work, Fine Arts, Theatre Music and Related Fields
002	Decorating and Art Work
003	Photography and Motion Picture Camera Work
004	Art Work
005	Artistic Restoration, Decoration and Related Work
	BUSINESS RELATIONS
006	Administration
007	Contract Negotiating and Related Work
008	Business Training Services
009	Supervisory Work (Clerical, Sales, and Related Activities)
010	Managerial Work
011	Consultative and Business Services
012	Interviewing, Information-Giving, and Related Work (Vocational, Educational, Etc.)
013	Accounting, Auditing, and Related Work
014	Title and Contract Search and Analysis, and Related Work
015	Corresponding and Related Work
	CLERICAL WORK
017	Scheduling, Dispatching, Expediting, and Related Work
018	Secretarial and Related Work
020	Paying and Receiving (Banks and other Establishments)
021	Cashiering (Drugstores, Theatres, Restaurants, and Related Establishments)
022,024[2]	Inspecting and Stock Checking, Classifying, Filing
025-029[2]	Stenographic Work, Computing, Sorting, Inspecting, Measuring, Typing, Recording
030	Switchboard Service
	COUNSELING, GUIDANCE, AND SOCIAL WORK
031	Social Science, Psychological, and Related Research
032	Guidance and Counseling
033	Vocational Education

CRAFTS

034	Supervisory Work (Farming, Logging, Manufacturing, Processing, Construction, Transportation and Related Activities)
035	Supervisory Work (Farming, Logging, Manufacturing, Processing, Construction, Transportation and Related Activities)
036	Costuming, Tailoring, and Dressmaking
037	Cooking and Related Work
038	Crafts and Related Work
039	Precision Working
040	Manipulating

EDUCATION AND TRAINING

041	Supervisory and Instructive Work
042	Industrial Training
033	Vocational Education
043	Flight Training
044	High School, College, University, and Related Training
045	Kindergarten, Elementary School, and Related Education
046	Miscellaneous Instructive Work
047	Physical Education
048[3]	Combined with 008
049	Animal Training

ENGINEERING

053	Engineering Research and Design
054	Sales Engineering
055	Engineering, Scientific, and Technical Coordination
056-057[2]	Drafting, Technical Work, Engineering
058	Engineering and Related Work
059	Industrial Engineering and Related Work
060	Surveying, Prospecting, and Related Work
061	Technical Writing and Related Work

ENTERTAINMENT

062-066[3]	Creative Entertainment Work
067	Radio, Television Announcing, and Related Work
068	Amusement and Entertainment Work, Physical
069	Miscellaneous Amusement and Recreational Work
070	Specialty Entertainment Work
071	Modeling and Related Work

FARMING, FISHING, AND FORESTRY

072	Cropping, Animal Farming, Gardening, and Related Work
073	Technical Work, Science, and Related Fields

INVESTIGATING, INSPECTING, AND TESTING

074 Investigating, Protecting, and Related Work
075 Materials Analysis and Related Work
076 Appraising and Investigating Work
077 Transporting and Test Driving

LAW AND LAW ENFORCEMENT

078 Legal and Related Work
079 Protecting and Related Work

MACHINE WORK

080-082[2] Set Up and/or All-Round Machine Operating, Set Up and Adjustment, Operating-Controlling
083-084[2] Driving-Operating, Tending

MANAGERIAL AND SUPERVISORY WORK

085 Supervisory Work (Service and Related Activities)

MATHEMATICS AND SCIENCE

086 Health Physics
087 Scientific Research
088 Mathematics, Physical Sciences, and Related Research

MEDICINE AND HEALTH

089 Surgery
090 Medical, Surgery, Veterinary, and Related Services
091 Therapeutic and Related Work
092 Nursing, X-Ray, and Related Services
093 Child and Adult Care

MERCHANDISING

094 Promotion and Publicity
095 Purchase and Sales Work
096 Sales and Service Work
097 Demonstration and Sales Work
098 Delivery and Service Work, n.e.c.
099 Selling and Related Work

MUSIC

100 Musical Work, Creative

PERSONAL SERVICE

101	Beautician and Barbering Services
104	Accommodating Work
106	Ushering, Messenger Service, and Related Work
107	Animal Care

PHOTOGRAPHY AND COMMUNICATIONS

108-109[2]	Motion Picture Projecting, Photographic Machine Work, Radio and Television Transmitting and Receiving

TRANSPORTATION

110	Transportation Service Work

WRITING

111	Journalism and Editorial Work
112	Creative Writing
113	News Reporting and Related Work
114	Translating, Editing, and Related Work

Footnotes

1. Worker Trait Groups characterized by one temperament only were eliminated from the *Work Temperament Inventory Computer Report* and are not listed here.

2. In some cases similar work groups were combined by the developers of the *Work Temperament Inventory Computer Report* into one grouping. This was done when similar work groups (e.g. driving-operating, tending) within the same category (e.g. machine work) required identical temperaments.

3. These work groups were combined by the developers of the *Dictionary of Worker Traits*.

APPENDIX 4

SAMPLE DESCRIPTIONS OF WORKER TRAIT GROUPS

The descriptions of Worker Trait Groups provided in the WTI Computer Report are abbreviated versions of the descriptions found in the *Dictionary of Worker Traits, Volume 1*. In abridging the original descriptions of Worker Trait Groups one or more sentences from the "Work Performed" section of the original were retained. In addition, many or all of the "Clues for Relating Applicants and Requirements" were retained in the abridged version. A sample description of one worker trait group is provided below as it appeared in the *Dictionary of Worker Traits* and then as it appears in the WTI Computer Report.

From the Dictionary of Worker Traits

ART 003 PHOTOGRAPHY

PHOTOGRAPHY AND MOTION PICTURE CAMERA WORK .062

Work Performed

Work activities in this group primarily involve photographing people, objects, or materials with still or motion picture cameras. Workers frequently conceive artistic photographic effects, and arrange and prepare the subject matter to be photographed.

Worker Requirements

An occupationally significant combination of: imagination; aesthetic appreciation; a feeling for form and symmetry; an eye for color; dexterity with fingers and hands and eye-hand coordination; and a facility for dealing with people.

Clues for Relating Applicants and Requirements

Collection of cameras and scrapbook of own photos.
Collections of the work of great photographers.
Expressed preference for public contact work.
Success as photographer for college newspaper.

Training and Methods of Entry

Hobbies and casual experience in school and military service are usually considered extremely important factors for entry into this field. Courses in photography and newspaper or magazine theory and practice are also significant. Workers usually start with routine, stock assignments and progress through experience to the more creative facets of photography and motion picture camera work.

RELATED WORKER TRAIT GROUPS

Decorating and Art Work (.031; .051; .061)
Art Work (.041; .061; .081)
Motion Picture Projecting, Photographic Work, and Related Activities (.260; .282; .362; .382)
Artistic Restoration, Decoration, and Related Work (.261; .281; .361; .381)

From the WTI Computer Report

WTG GROUP #3 ART - Photography and motion picture camera work

Work activities in this group primarily involve photographing people, objects, or materials with still or motion picture cameras. Workers frequently conceive artistic photographic effects, and arrange and prepare the subject matter to be photographed.

CLUES FOR RELATING APPLICANTS AND REQUIREMENTS

Collection of cameras and scrapbook of own photos.
Collections of the work of great photographers.
Expressed preference for public contact work.
Success as photographer for college newspaper.

APPENDIX 5

CRITICAL TEMPERAMENTS FOR WORKER TRAIT GROUPS INCLUDED IN THE WORK TEMPERAMENT INVENTORY COMPUTER REPORT

TEMPERAMENTS

WTG GROUP	V	R	D	P	I	S	J	M	E	T
001	-	-	86	100	-	-	57	-	71	-
002	-	-	64	64	-	-	100	-	100	-
003	-	-	-	57	-	-	100	-	71	100
004	-	-	-	-	-	-	96	-	96	41
005	-	-	-	-	-	-	85	65	-	60
006	-	-	95	95	-	-	60	-	-	-
007	-	-	66	93	-	-	62	-	-	-
008	-	-	100	100	-	-	100	-	-	-
009	50	-	93	99	-	-	-	51	-	-
010	56	-	97	91	-	-	56	-	-	-
011	-	-	-	84	-	-	-	76	-	-
012	-	-	-	95	-	-	67	63	-	-
013	-	-	76	-	-	-	-	100	-	76
014	-	-	-	-	-	-	67	89	-	-
015	-	-	-	50	-	-	-	100	-	-
017	58	-	69	83	-	-	-	52	-	-
018	83	-	-	100	-	-	83	-	-	83
020	57	-	-	100	-	-	-	-	-	86
021	-	57	-	93	-	-	-	-	-	92
022,024	-	-	-	-	-	-	-	79		86
025-029	-	50	-	-	-	-	-	-	-	100
030	-	86	-	100	-	-	-	-	-	-
031	-	-	-	-	-	-	-	80	-	-
032	-	-	65	96	-	-	80	-	-	-
033	71	-	-	100	86	-	86	-	-	-
034	70	-	99	94	-	-	-	75	-	-
035	66	-	99	95	-	-	-	67	-	-
036	-	-	-	-	-	-	-	100	-	86
037	-	-	-	-	-	-	90	-	-	81
038	-	-	-	-	-	-	-	91	-	98
039	-	-	-	-	-	-	-	73	-	98
040	-	75	-	-	-	-	-	-	-	81
041	61	-	89	100	-	-	-	61	-	-
042	62	-	62	94	-	-	-	-	-	-
043	-	-	-	-	-	83	83	67	-	-
044	-	-	75	81	75	-	69	-	-	-
045	100	-	75	100	-	-	-	-	-	-
046	-	-	67	89	-	-	-	-	-	-
047	-	-	100	100	-	-	60	-	-	-
049	75	-	-	100	-	-	100	-	-	-
053	62	-	82	-	-	-	-	91	-	75
054	-	-	90	-	70	-	-	100	-	-
055	-	-	86	71	-	-	-	74	-	-
056-057	-	-	-	-	-	-	-	100	-	96

WTG GROUP	V	R	D	P	I	S	J	M	E	T
058	-	-	68	-	-	-	-	100	-	64
059	-	-	79	-	-	-	-	95	-	63
060	-	-	-	-	-	-	48	100	-	57
061	50	-	-	-	-	-	50	100	-	50
062-066	-	-	-	80	-	-	80	-	93	-
067	43	-	-	86	-	-	43	-	-	-
068	-	-	-	62	-	75	69	-	-	-
069	-	-	-	58	-	-	67	-	-	-
070	-	-	-	86	-	-	-	-	43	-
071	-	-	-	60	-	-	-	-	60	-
072	85	-	81	-	-	-	73	65	-	-
073	43	-	-	-	-	-	-	64	-	43
074	-	-	-	86	-	-	74	75	-	-
075	-	-	-	-	-	-	-	92	-	89
076	-	-	-	-	-	-	54	92	-	59
077	-	-	-	-	-	69	-	75	-	-
078	57	-	-	90	62	-	62	-	-	-
079	-	-	-	100	-	80	-	-	-	-
080-082	-	-	-	-	-	-	-	97	-	98
083-084	-	69	-	-	-	-	-	-	-	59
085	77	-	94	100	-	-	-	-	-	-
086	-	-	100	100	-	-	-	100	-	-
087	-	-	61	-	-	-	-	98	-	73
088	-	-	-	-	-	-	71	100	-	62
089	-	-	67	100	-	-	67	100	-	-
090	-	-	-	100	-	-	93	90	-	-
091	73	-	73	91	-	-	-	-	-	-
092	-	-	-	88	-	-	-	51	-	57
093	70	-	-	90	-	-	-	-	-	-
094	-	-	100	100	100	-	75	-	-	-
095	-	-	-	100	89	-	82	-	-	-
096	-	-	-	75	-	-	100	100	-	75
097	-	-	-	99	98	-	86	-	-	-
098	-	-	-	60	40	-	-	-	-	-
099	-	-	-	100	67	-	-	-	-	-
100	-	-	-	-	-	-	100	-	75	-
101	67	-	-	100	-	-	89	-	-	-
104	67	-	-	83	-	-	67	-	-	-
106	-	65	-	94	-	-	-	-	-	-
107	50	-	-	-	-	-	-	50	-	-
108-109	-	-	-	-	-	-	-	84	-	100
110	-	-	-	100	-	-	67	-	-	-
111	-	-	67	72	-	-	94	-	-	-
112	-	-	-	-	-	-	93	-	100	-
113	67	-	-	100	100	-	100	67	-	-
114	-	-	-	-	-	-	89	78	-	67

APPENDIX 6

WTI Scale Descriptions with Examples

D - DIRECTING, controlling, and planning activities of others, including formulating policies, negotiating for agreements, and supervising subordinate workers.
For Example:
- Conduct prosecution in court proceedings for a government agency.
- Coordinate activities in cargo traffic division of railway express agency.
- Plan and implement a program to reduce or eliminate occupational injuries.

R - Performing **REPETITIVE** or short-cycle work entailing the completion of routine tasks according to set procedures with little opportunity for independent judgment.
For Example:
- Pack produce in boxes, baskets, or crates for storage or shipment.
- Record alphabetic or numeric codes in prescribed sequence on worksheet.
- Feed steel strips into machine to form barrel hoops.

I - INFLUENCING people to modify their opinions, attitudes, and judgments, or to participate in particular activities, or to purchase a commodity or service.
For Example:
- Encourage groups of citizens having common interests to present their views to legislators.
- Argue for union workers benefits in conferences with management officials.
- Persuade individuals and firms to contribute money to charitable organizations.

V - Performing a **VARIETY** of duties involving different aptitudes, techniques, procedures, and physical demands without loss of efficiency or composure.
For Example:
- Copy data, compile records, tabulate data, record orders, and send out invoices.
- Overhaul, repair, and test aircraft instruments using precision handtools.
- Consult with management, interview workers, analyze occupational data, and compile reports.

E - EXPRESSING personal feelings, using creativity or imagination to reflect original ideas in writing, painting, composing, inventing, or interpreting the work of others.
For Example:
- Design decorations around central themes, such as holidays, seasons, or local celebrations.
- Act the part of characters in stage plays and television shows.
- Conceive ideas for painting original subject material.

J - Making **JUDGMENTS**, evaluations, and generalizations based on sensory criteria or knowledge gained through personal experience in a wide variety of activities.
For Example:
- Analyze laws and previous court decisions to determine plan for conducting legal case.
- Judge effectiveness of different illustrations and print sizes in planning an advertising layout.
- Evaluate growing conditions and market demands to select grain for seed.

A - Working **ALONE** or apart in physical isolation from others in an environment that precludes face-to-face interpersonal relationships for extended periods of time.

For Example:

- Locate and report forest fires and weather changes from remote fire-lookout station.
- Patrol pipelines to locate and repair leaks and breaks.
- Survey isolated rural areas to update county road maps.

S - Performing effectively under **STRESS** in jobs that involve emergency, unusual, or dangerous situations that require speed, risk, and sustained attention.

For Example:

- Control air traffic to prevent collisions arising from traffic congestion.
- Assist persons entering hospital through emergency or trauma units.
- Perform daredevil feats, such as perilous rides or spectacular jumps, for dramatic productions.

T - Attaining precise set limits, **TOLERANCES**, and standards using precision measuring instruments, preparing detailed records, and complying with precise specifications.

For Example:

- Examine parachutes to detect substandard parts.
- Drill micro-channels in industrial diamonds to make wire-drawing dies.
- Verify voter lists from official registration records.

U - Working **UNDER** specific instructions that require continuously following instructions in oral, written, or diagrammatic form, precluding independent judgment in solving problems.

For Example:

- Mix pharmaceuticals under the direction of a professional in a hospital pharmacy.
- Examine life insurance applications using a standard checklist to determine if all necessary information is provided.
- Assemble storm windows from pre-fabricated kits.

P - Dealing with **PEOPLE** in job situations that require cooperative and agreeable interpersonal relationships, beyond merely giving and receiving instructions.

For Example:

- Interview newsworthy persons to take pictures and get information.
- Render assistance to motorists having difficulties and help them on their way.
- Consult with medical and nursing staffs to formulate therapeutic diet menus.

M - Making judgments and decisions based on **MEASURABLE** or verifiable information, facts, or data, such as knowledge of the characteristics of materials or the properties of matter and energy.

For Example:

- Examine works of art scientifically to determine their authenticity.
- Study body tissues and secretions to determine presence and stage of diseases.
- Examine gun components using gages and micrometers to determine causes of malfunctions.

APPENDIX 7

WTI Scoring Key*

D - 13, 25, 37, 49, 61, 64, 73, 85, 97, 108, 118

R - 2, 14, 26, 38, 50, 68, 74, 92, 98, 109, 119

I - 3, 15, 27, 39, 51, 63, 76, 88, 99, 110, 120, 128

V - 4, 16, 28, 40, 53, 65, 77, 89, 101, 111, 121, 129

E - 5, 17, 29, 41, 54, 66, 78, 90, 102, 112, 122, 130, 134

J - 1, 12, 24, 36, 48, 52, 86, 96, 107, 117

A - 7, 19, 31, 43, 56, 62, 69, 75, 80

S - 8, 11, 20, 32, 44, 57, 81, 87, 93, 104, 124

T - 9, 21, 33, 45, 58, 70, 82, 94, 105, 115, 126, 132

U - 10, 22, 34, 46, 59, 71, 83, 100, 125

P - 23, 35, 47, 60, 72, 84, 95, 106, 114, 116, 127, 133

M - 6, 18, 30, 42, 55, 67, 79, 91, 103, 113, 123, 131

*The raw scale score is the sum of the keyed items marked "L" (Like).

APPENDIX 8

WTI Percentile Norms

	D	R	I	V	E	J	A	S	T	U	P	M
13					99							
12			99	99	90				99		99	99
11	99	99	98	99	83			99	99		97	99
10	99	99	94	99	75	99		99	99		91	99
9	98	99	88	99	67	99	99	99	98	99	86	96
8	93	97	82	98	60	96	99	96	96	99	82	94
7	87	95	77	93	54	90	97	92	95	99	72	90
6	77	94	68	84	44	80	92	86	93	98	62	85
5	68	90	60	72	38	64	86	77	86	95	50	78
4	55	87	50	57	29	53	77	64	81	91	38	69
3	41	82	40	41	21	38	66	55	72	85	28	57
2	27	75	30	23	16	21	49	40	60	70	20	43
1	15	63	20	10	11	11	36	25	44	50	10	23
0	5	38	11	4	6	6	22	13	20	27	4	12

APPENDIX 9
Demographic Characteristics of the Normative Sample

Variable	College Four Yr		College Two Yr		University Employees		Rehabilitation Clients		Total Sample	
	n	%	n	%	n	%	n	%	n	%
AGE										
17-25	103	96	42	53	2	3	27	40	173	52
26-35	1	1	19	24	16	21	17	25	53	16
36-45	0	0	10	13	25	33	19	28	53	16
46-55	0	0	4	5	19	25	5	7	29	9
56-68	0	0	1	1	11	15	0	0	12	4
Missing	3	3	3	4	2	3	0	0	9	3
EDUCATION										
Special Education	0	0	0	0			2	3	2	1
6-8 years	0	0	0	0			4	6	4	1
9-11 years	0	0	1	1			6	10	8	2
12 years	0	0	3	4			49	72	53	16
Some College	107	100	75	95			5	7	173	52
Missing	0	0	0	0			0	0	84	26
SEX										
Male	37	35	26	33	9	12	47	69	119	36
Female	70	65	53	67	66	88	21	31	219	64
OCCUPATION										
Secretary					33	44				
Admin. Asst.					12	16				
Support Staff					17	23				
Missing					13	17				
DISABILITY										
Medical/ Orthopedic							33	46		
Medical/ Disease							11	16		
Psychiatric/ Behavioral							21	31		
Learning Disability							5	7		

Note: N's for the four subsamples and the total sample are 107, 79, 75, 68, and 329 respectively.

APPENDIX 10

Uses Interest Inventory Scales

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1. **Artistic:** Interest in creative expression of feeling or ideas.

2. **Scientific:** Interest in discovering, collecting, and analyzing information about the natural world.

3. **Plants & Animals:** Interest in activities involving plants and animals, usually in outdoor settings.

4. **Protective:** Interest in the use of authority to protect people and property.

5. **Mechanical:** Interest in applying mechanical principles to practical solutions or using machines, handtools, or techniques.

6. **Industrial:** Interest in repetitive, concrete, or organized activities in a factory setting.

7. **Business Detail:** Interest in organized, clearly defined activities requiring accuracy and attention to detail.

8. **Selling:** Interest in bringing others to a point of view through personal persuasion.

9 **Accommodating:** Interest in catering to the wishes of others, usually by providing services for the convenience of them.

10. **Humanitarian:** Interest in helping others with their mental, social, spiritual, physical, or vocational needs.

11. **Leading-Influencing:** Interest in leading and influencing others.

12. **Physical Performing:** Interest in physical activities that are performed before an audience.

Employability Assessment Materials for Vocational Rehabilitation

Helping clients to take their places in the world of work is what vocational rehabilitation is all about, and reliable assessment is the key to planning individualized programs that can effectively enhance the employability of people with disabilities.
As a result of its five-year project entitled Enhancing Employability of Persons with Disabilities, the *Arkansas Research and Training Center in Vocational Rehabilitation* has developed a Diagnostic Employability Profile of assessment components which can be used separately or in conjunction with employability interventions developed by the Center.

Work Personality Profile

#43-1354 WPP Manual
#43-0356 Diskette (5 1/4" IBM)
#43-1355 WPP Instrument (Pkg. of 50)
#43-0100 WPP Instrument (Pkg. of 100)
#43-0456 Complete set (Manual, diskette, pkg.50)

WPP SELF-REPORT VERSION
A companion to WPP designed to be used in conjuction with WPP materials
#43-1616 WPP/SR Manual
#43-1578 WPP/SR Instrument (Pkg. of 50)
#43-0578 WPP/SR Instrument (Pkg. of 100)

Occupational Report

#43-1373 OR Manual
#43-1379 Diskette (5 1/4" IBM)
#43-0373 Complete Set (Manual & diskette)

Vocational Personality Report

#43-1372 VPR Manual
#43-1378 Diskette (5 1/4" IBM)
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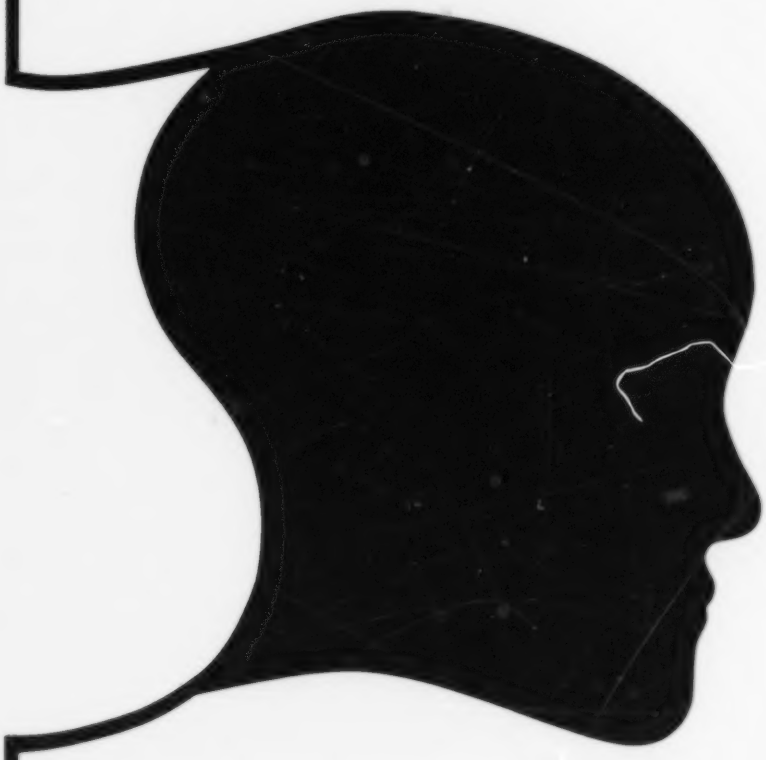

Work Temperament INVENTORY

Brian Bolton **Jeffrey Brookings**

Arkansas Research & Training Center in Vocational Rehabilitation
University of Arkansas, Fayetteville
Arkansas Rehabilitation Services

Name	LAST	FIRST	Date

Work Temperament Inventory

This inventory lists 134 job tasks that workers perform. Please indicate whether you would **Like** or **Dislike** each activity by circling **L** or **D**. ***Do not*** be concerned with your qualifications to perform the task, but only with whether or not you would like the activity.

L	D	
LIKE	DISLIKE	
L	D	**1.** Analyze psychological and social factors as a basis for counseling with clients.
L	D	**2.** Address cards, envelopes, and packages for mailing by hand or using typewriter.
L	D	**3.** Promote goodwill and solicit business by explaining services to newcomers to the neighborhood.
L	D	**4.** Make and repair artificial limbs, braces, and other othopedic appliances.
L	D	**5.** Create art work from stone, wood, clay, plastics, or metal.
L	D	**6.** Determine physical properties of metals by measuring hardness, elasticity, and malleability.
L	D	**7.** Locate and report forest fires and weather changes from remote fire-lookout station.
L	D	**8.** Perform surgery to correct deformities, repair injuries, and improve function in patients.
L	D	**9.** Operate billing machine to transcribe data from office records.
L	D	**10.** Install plastic molding strips into slotted edges of metal tabletops using mallet and bandsaw.
L	D	**11.** Control air traffic to prevent collisions arising from traffic congestion.
L	D	**12.** Evaluate information to facilitate use by people who solve social problems.
L	D	**13.** Install and maintain operation of general accounting system.

L D **14.** Sort agricultural produce, such as fruits and vegetables, working as a member of a crew.

L D **15.** Persuade plant personnel to comply with regulations and use protective devices through safety meetings.

L D **16.** Copy data, compile records, tabulate data, record orders, and send out invoices.

L D **17.** Design artistic effects for outside displays and building decorations.

L D **18.** Examine works of art scientifically to determine their authenticity.

L D **19.** Work below surface of water using scuba gear or in diving suit to repair equipment.

L D **20.** Protect life and property as volunteer fire fighter for the township.

L D **21.** Brush gold leaf onto designs on picture frames.

L D **22.** Mix pharmaceuticals under the direction of a professional in a hospital pharmacy.

L D **23.** Counsel clients on problems with family and personal relationships.

L D **24.** Analyze laws and previous court decisions to determine plan for conducting legal case.

L D **25.** Supervise workers who care for race horses.

L D **26.** Pack produce in boxes, baskets, or crates for storage or shipment.

L D **27.** Encourage groups of citizens having common interests to present their views to legislators.

L D **28.** Prepare inventory, adjust complaints, operate office machines, and answer correspondence.

L D **29.** Design decorations around central themes, such as holidays, seasons, or local celebrations.

L D **30.** Test pathogenic bacteria using laboratory techniques to determine their virulence.

L D **31.** Explore regions likely to contain valuable mineral deposits using maps and surveys.

L D **32.** Train wild animals to perform for entertainment at circuses and exhibitions.

L D **33.** Examine parachutes to detect substandard parts.

L D **34.** Measure, grind, and mix specified ingredients to prepare animal food.

L D **35.** Interview newsworthy persons to take pictures and get information.

L D **36.** Determine appropriate color combinations in the selection of floor coverings and wallpaper.

L D **37.** Conduct prosecution in court proceedings for a government agency.

L D **38.** Feed wood stock into machines that saw, bore, or shape wooden articles.

L D **39.** Convince public of desirable features of proposed legislation through speeches and debates.

L D **40.** Maintain, repair, and overhaul farm machinery, equipment, and vehicles.

L D **41.** Photograph persons, merchandise, and fashions to be used in advertising.

L D **42.** Examine industrial diamonds to determine their quality, shape, and size.

L D **43.** Trap animals for pelts, live sale, bounty, or to relocate them to other areas.

L D **44.** Drive racing car in competition road races.

L D **45.** Test industrial diamonds to determine their suitability for use in tools and grinding wheels.

L D **46.** Inspect manufactured products for conformance to specifications using preset measuring instruments.

L D **47.** Issue transfer slips, make change, and answer questions for bus riders.

L D **48.** Determine appropriate pose, lighting effect, and background for subject of picture.

L D **49.** Select performers and assume responsibility for conduct of musical program.

L D **50.** Record alphabetic or numeric codes in prescribed sequence on worksheet.

L D **51.** Promote the use of pharmaceutical products through meetings with doctors and hospital personnel.

L D **52.** Judge effectiveness of different illustrations and print sizes in planning an advertising layout.

L D **53.** Care for animals used in medical and technological tests and research.

L D **54.** Create original dances for ballet, musical, or revue.

L D **55.** Study body tissues and secretions to determine presence and stage of diseases.

L D **56.** Patrol pipelines to locate and repair leaks and breaks.

L D **57.** Assist persons entering hospital through emergency or trauma units.

L D **58.** Calculate latitude and longitude using standard navigational aids to plot courses for designated landings.

L D **59.** Bend and adjust eyeglass frames according to prescription specifications using jewelers' handtools.

L D **60.** Interview unemployed workers to determine their eligibility for unemployment benefits.

L D **61.** Command fishing vessel crew catching fish and other marine life.

L D **62.** Drive tractor-trailer truck long distances to transport and deliver products.

L D **63.** Inform customers about the use and effectiveness of new drugs and preparations.

L D **64.** Plan and direct rehabilitation program for newly blinded patients.

L D **65.** Act as manager, advisor, and chaperon for college fraternity or sorority.

L D **66.** Create themes and design layouts for advertising displays.

L D **67.** Measure and record events using electronic instruments to observe decay of radioactive atomic nuclei.

L D **68.** Push levers or pedals to move material into conveyor or stock pile.

L D **69.** Count rare birds and other wildlife at a remote tropical field station.

L D **70.** Trim component parts of wooden joints to make them fit snugly.

L D **71.** Examine life insurance applications using a standard checklist to determine if all necessary information is provided.

L D **72.** Guide sportspersons to hunting and fishing areas and explain the relevant laws to them.

L D **73.** Coordinate activities in cargo traffic division of railway express agency.

L D **74.** Place eggs in holder that carries them into cleaning machine.

L D **75.** Survey isolated rural areas to update county road maps.

L D **76.** Develop markets for new household products through lectures, classes, and shows.

L D **77.** Prepare specimens for museum collections and exhibits.

L D **78.** Act the part of characters in stage plays and television shows.

L D **79.** Cut and grind lenses for eyeglasses according to prescription specifications.

L D **80.** Participate in isolation experiments to evaluate extent of time disorientation.

L D **81.** Pilot experimental aircraft to determine airworthiness.

L D **82.** Control audio equipment to synchronize sound with picture presentation.

L D **83.** Assemble and package manufactured items for shipment following step-by-step instructions.

L D **84.** Greet airline passengers and answer questions to establish rapport and dispel anxiety.

L D **85.** Design and coordinate construction of homes and buildings.

L D **86.** Examine hops to ascertain moisture content and effectiveness of drying process.

L D **87.** Patrol state highways to enforce motor vehicle and criminal laws and arrest violators.

L D **88.** Promote public support of community housing and transportation programs through educational campaigns.

L D **89.** Overhaul, repair, and test aircraft instruments using precision handtools.

L D **90.** Invent musical arrangements for symphony, sonata, or opera.

L D **91.** Plot courses using standard equipment to locate specific areas on fishing grounds.

L D **92.** Feed steel strips into machine to form barrel hoops.

L D **93.** Perform daredevil feats, such as perilous rides or spectacular jumps, for dramatic productions.

L D **94.** Wire plugboard to make circuit connections that will control printing of data.

L D **95.** Render assistance to motorists having difficulties and help them on their way.

L D **96.** Evaluate performance of circus animals as a basis for developing acts.

L D **97.** Plan and implement a program to reduce or eliminate occupational injuries.

L D **98.** Pack crushed ice on fresh food products to refrigerate them during shipment.

L D **99.** Argue for union workers benefits in conferences with management officials.

L D **100.** Enter data into a computer for subsequent analysis by a statistician.

L D **101.** Teach science, hygiene, music, art, and literature to young children.

L D **102.** Sing on stage, radio, television or in nightclubs.

L D **103.** Analyze business records to establish basis for preparing operating budget.

L D **104.** Repair transmission powerlines between generating stations and substations.

L D **105.** Examine articles for damage that might result during processing.

L D **106.** Confer with television studio and entertainment officials to bargain for engagements.

L D **107.** Evaluate performance of aircraft to determine suitability of aerodynamic design.

L D **108.** Command ship to transport passengers across oceans and coordinate activities of crew.

L D **109.** Load materials onto trucks at shipping platform.

L D **110.** Induce owners to lease property for erection of billboard signs.

L D **111.** Demonstrate, sell, and service sewing machines.

L D **112.** Write literary interpretation in fields like politics, theology, or drama.

L D **113.** Determine initial claim eligibility for unemployment benefits from statements and records.

L D **114.** Schedule appointments for customers by mail, phone, or in person.

L D **115.** Drill micro-channels in industrial diamonds to make wire-drawing dies.

L D **116.** Consult with medical and nursing staffs to formulate therapeutic diet menus.

L D **117.** Evaluate growing conditions and market demands to select grain for seed.

L D **118.** Supervise personnel engaged in operation of aircraft control tower.

L D **119.** Sort mail into mail sacks according to destination.

L D **120.** Persuade individuals and firms to contribute money to charitable organizations.

L D **121.** Schedule appointments, give information to callers, take dictation, and perform routine business tasks.

L D **122.** Compose and write humorous articles for publication.

L D **123.** Examine gun components using gages and micrometers to determine causes of malfunctions.

L D **124.** Parachute from airplane into inaccessible forest to suppress forest fires.

L D **125.** Assemble storm windows from pre-fabricated kits.

L D **126.** Adjust valves that feed gas through tank to add malodorant.

L D **127.** Advise clients concerning life insurance, pensions, taxation, and family finance.

L D **128.** Promote sales by displaying products and explaining features to customers.

L D **129.** Consult with management, interview workers, analyze occupational data, and compile reports.

L D **130.** Conceive ideas for painting original subject material.

L D **131.** Apply mathematical formulas to determine percentage of increase or decrease in monthly gas consumption.

L D **132.** Verify voter lists from official registration records.

L D **133.** Counsel parolees having difficulty in readjusting to the community following release from prison.

L D **134.** Design and sculpt three-dimensional artwork.

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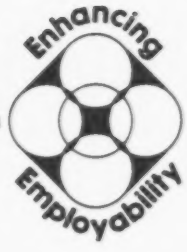

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